

## We Claim:

1. A high power, integrated fiber laser amplifier comprising a seed laser producing a seed pulse and one or more power amplifier stages comprising:
  - a fiber preamplifier receiving and amplifying the seed pulse, said fiber preamplifier having a first core diameter;
  - a fiber power amplifier comprising a low numerical aperture, coiled clad fiber, having a core diameter larger than said first core diameter,
  - means for coupling said fiber preamplifier to said fiber power amplifier.
2. A high power, integrated fiber laser amplifier according to claim 1 wherein said low numerical aperture is between 0.06 and 0.08.
3. A high power, integrated fiber laser system according to claim 1 further comprising a tapered fiber bundle connected to the cladding of said fiber power amplifier for directing pump energy into said cladding.
4. A high power, integrated fiber laser according to claim 1 further comprising:
  - first means for pumping said fiber preamplifier,
  - second means for pumping said fiber power amplifier, and
  - means for synchronizing the seed pulse with said first and second means for pumping to reduce ASE.